WHAT IS CLAIMED IS:

1. A production apparatus of a fluoride crystal having a crucible divided in a plurality to have multi-stages, to be used for refining a material in a process for refining the material by adding a scavenger in the material.

2. The production apparatus of a fluoride crystal according to claim 1, wherein a degassing hole is provided on a side wall portion of the crucible.

3. A crucible having at least two degassing holes on a side wall portion.

4. A crucible having a connecting hole in the bottom center portion, and at least two degassing holes on a side wall portion.

5. The crucible according to claim 3 or 4, wherein the degassing holes have a diameter of 1 to 5 mm.

6. The crucible according to claim ~~4 or 5~~ 4, wherein the connecting hole has a diameter of 1 to 5 mm.

7. The crucible according to ~~any of claims 4 to 6~~ claim 4, wherein the area of the degassing holes is smaller than the area of the connecting hole.

8. The crucible according to ~~any of claims 3 to 7~~ claim 3 or 4, wherein the degassing holes are point symmetric with respect to the central axis of the crucible.

A 9. The crucible according to claim 3 or 4, ~~any of claims 3 to 8~~, having a cylindrical shape with the bottom face.

A 10. The crucible according to claim 3 or 4, ~~any of claims 3 to 9~~, having a 250 mm or more inner diameter.

A 11. The crucible according to claim 3 or 4, ~~any of claims 3 to 10~~, having a region for mounting a material.

12. A multi-stage crucible having a region obtained by superimposing a plurality of the crucibles according to claim 3 or 4 as the region for mounting a material, and having a crucible without a connecting hole at the lowermost stage.

13. A crystal production method for producing a calcium fluoride crystal using the crucible according to A claim 11 ~~or 12~~.

14. A crystal production apparatus having the A crucible according to claim 3 or 4, ~~any of claims 3 to 11~~.

15. A crystal production apparatus having the multi-stage crucible according to claim 12.

16. A crucible having a plurality of the crucibles superimposed in multi-stages via a gap for a gas passage.

add B2 C2

add D2

add E, F